NASA Range Safety Program
2006 Annual Report

INDEPENDENT ASSESSMENT
COMMON RISK ANALYSIS TOOLS DEVELOPMENT

Public safety risk is evaluated for each NASA mission and must meet acceptable risk criterion as described in NASA Procedural Requirement 8715.5; *Range Safety Program*. Historically, each NASA Center was unique in its methodologies and approaches for determining risk. Some Centers developed in-house risk modeling capabilities while others relied on risk models developed and run by other agencies.

In September of 2006, range safety representatives from NASA Headquarters and Centers met to discuss current risk modeling capabilities and current needs and to determine a way ahead for future development. The group, now referred to as the *NASA Range Safety Analysis Tools Development Committee*, quickly identified the need to communicate and share resources with other Centers.

Standardizing Risk Assessment Methods and Processes

Standardization of the methodologies and processes used to assess risk is at the forefront of this committee's charter. Before the issuance of the procedural requirement in July of 2005, Centers were responsible for determining appropriate acceptable risk criteria for application to their missions. Public safety risk associated with missions launched from Department of Defense ranges was not necessarily the responsibility of NASA since Department of Defense Directive 3200.11, *Major Range and Test Facility Base*, places the burden of public safety risk solely on the Range Commander. Upon issuance of the NASA procedural requirement, a set of standard acceptable risk criterion was codified and public safety risk is now a shared responsibility of NASA Center Directors and Program Managers.

Sharing Risk Codes and Expertise

Based on the clarified requirements and responsibilities outlined in the NASA procedural requirement, the committee's tasks for fiscal 2007 will include exploring and developing a mechanism for Centers to share risk codes and expertise in an attempt to standardize processes. A trial run of this concept was successfully executed at the Wallops Flight Facility where risk analysts from Kennedy Space Center and the 45th Space Wing performed the required assessments for distant focusing overpressure and toxics risk for the Air Force Research Laboratory's TacSat-2 mission.

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Determining Training Needs

Training needs and requirements for code developers and operators will also be evaluated. The committee will determine and evaluate appropriate NASA level requirements for code configuration management and verification and validation and attempt to standardize these requirements and interpretations across all NASA centers. Shared public safety responsibility for NASA missions launched from Department of Defense ranges makes understanding and accommodating other agency needs and efforts with respect to risk modeling a must for successful completion of committee goals.

With much work on the horizon, the NASA Range Safety Analysis Tools Development Committee looks forward to a successful and productive 2007.